

Making Rates

Or

**How Do They Do That
Actuarial Thing?**

**Mike Taylor
National Council On Compensation Insurance**

WC Ratemaking 101

- **What you won't hear**
- **Where to start**
- **Where does it come from**
- **What to do with it**
- **How can we be sure**
- **Bottom line to Joe Q. Public**

Technical Actuarial Type Words

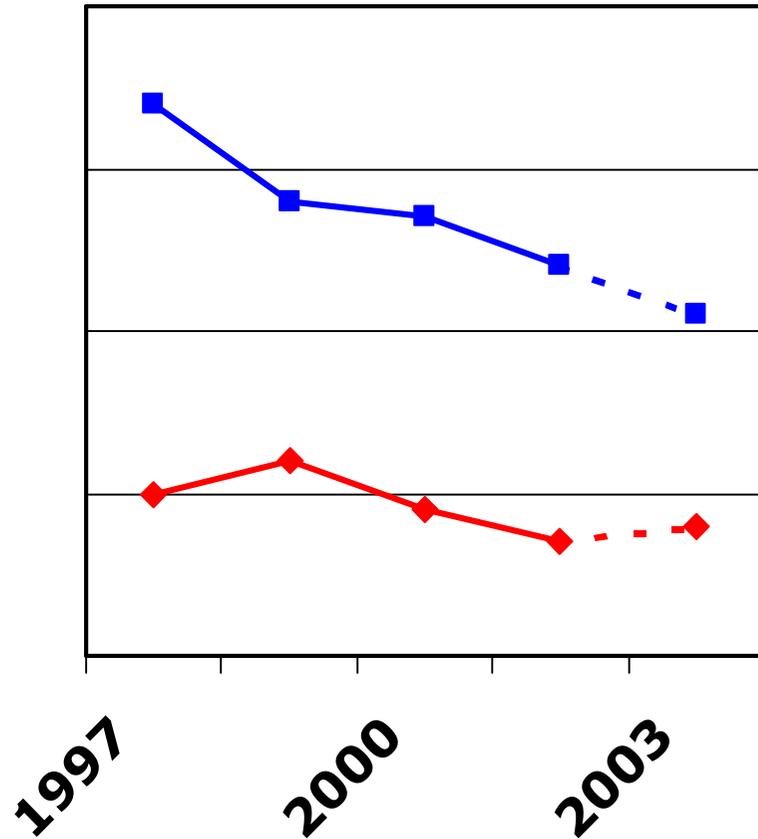
- **Tail Factors**
- **Incurred But Not Reported**
- **On-Level Factor**
- **Exponential Trend Factors**
- **18th to Ultimate Development**
- **Composite Adjustment Factor**
- **Off-Balance**

Where to start?



- **Look at where the state is**
- **Gather a whole bunch of new and updated data**
- **Objectively analyze it to see where it leads**
- **Mix in other factors**
- **Spread it out**

Where are we?



- **What's the current status?**
- **Any recent:**
 - **System changes?**
 - **Benefit Changes?**
 - **Law Changes?**
 - **Other Stuff?**

1ST Step

Determine Overall Rate Level

- **How much money (premium) is needed to fund the system to only pay all the anticipated indemnity and medical losses?**



Data...

- **Financial Data**
 - **Calendar Year Data**
 - **Policy Year Data**

Answers the 1st question:

“How much money did the industry bring in?”



...and more Data



- **Loss Data**

Answers the 2nd question:

“How much did the industry pay out?”

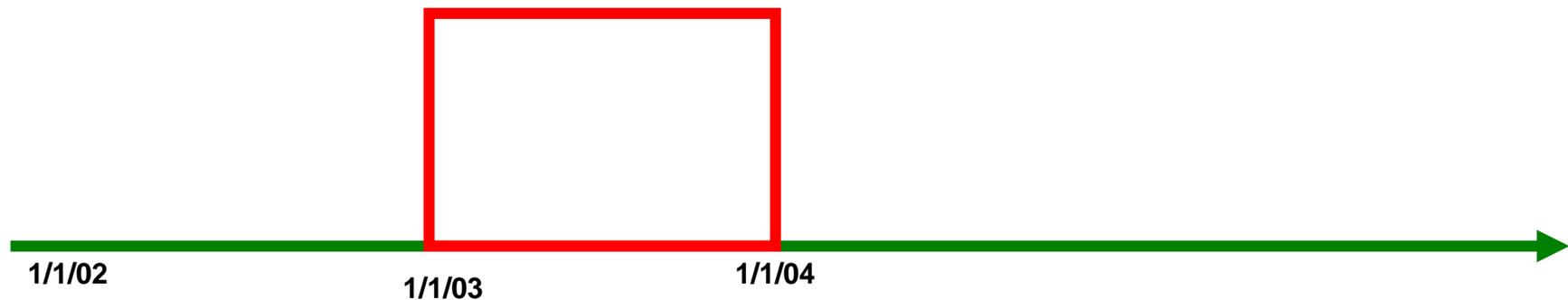
- **Type of injuries**
- **Medical costs**
- **Wage Replacement**
- **Frequency**
- **Severity**

Different Data For Different Needs



- **Calendar Year Data**
- **Policy Year Data**
- **Individual Policy Data**

Calendar Year 2003



Consists of all transactions reported in 2003, regardless of the years which generated them.

Premium in – losses paid out

Sources: NAIC, Annual Statements or AM Best

Calendar Year Data

Advantages:

- **Readily available**
- **Fresher**
- **Compiled quickly**
- **Fixed over time**
- **Easily reconciled to other sources**



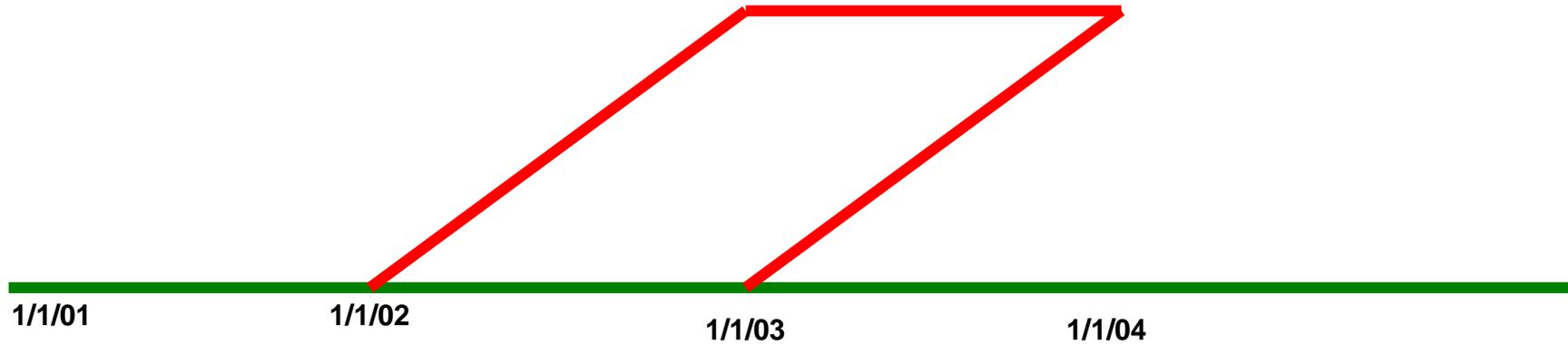
Calendar Year Data



Drawbacks

- **Distorted by rapid growth or decline in market share**
- **Greatly impacted by prior years reserve changes in current year**
- **Not a good measure of profitability**

Policy Year 2002



Data is organized by matching premiums and losses to policies issued during a given year, regardless of when it's reported to insurer

Policy Year Data

Advantages

- **Matches losses & premiums to the underlying policies**
- **More Mature**
- **More stable**



Policy Year Data



Drawbacks

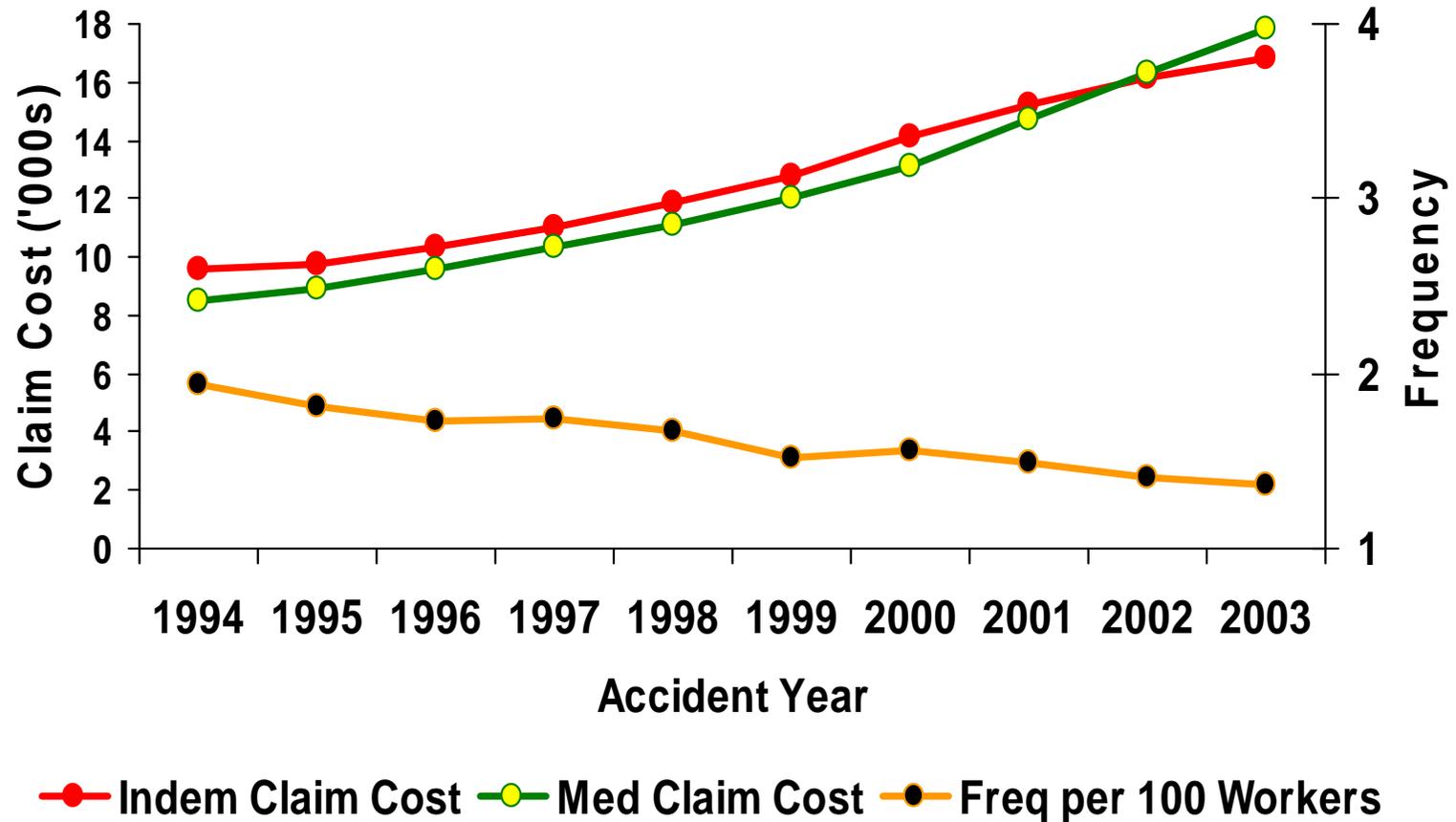
- **Older**
- **Takes too long to finalize**
- **Not readily published**

2nd Step - Trend

- **Getting from Point A**
 - (Where we are)
- **to Point B**
 - (Where we need to go)
- **Measures the changes in the growth/decline of wages and losses**

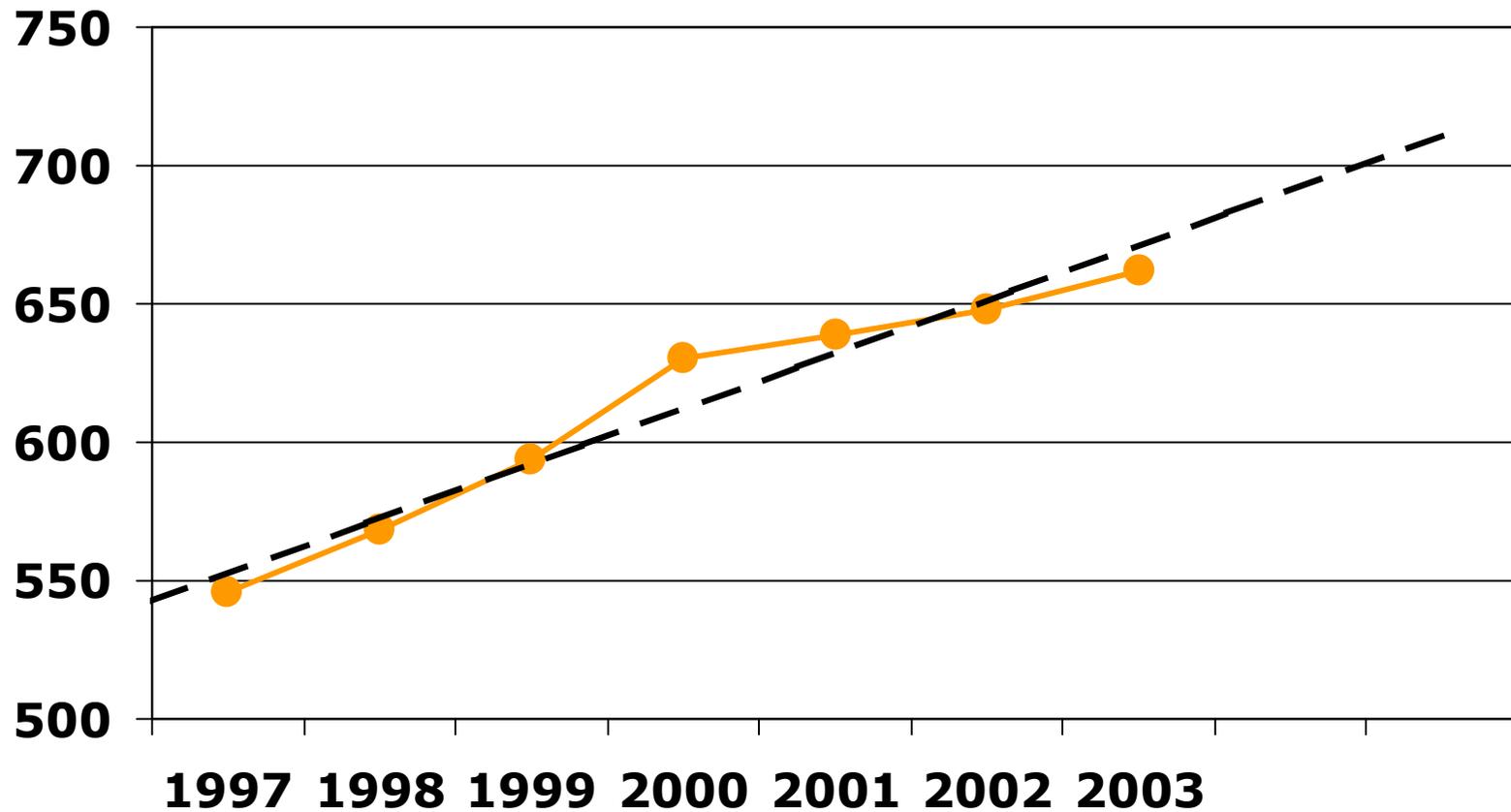
Differences indicate trend

Cost Per Claim Going Up, Number of Claims Going Down



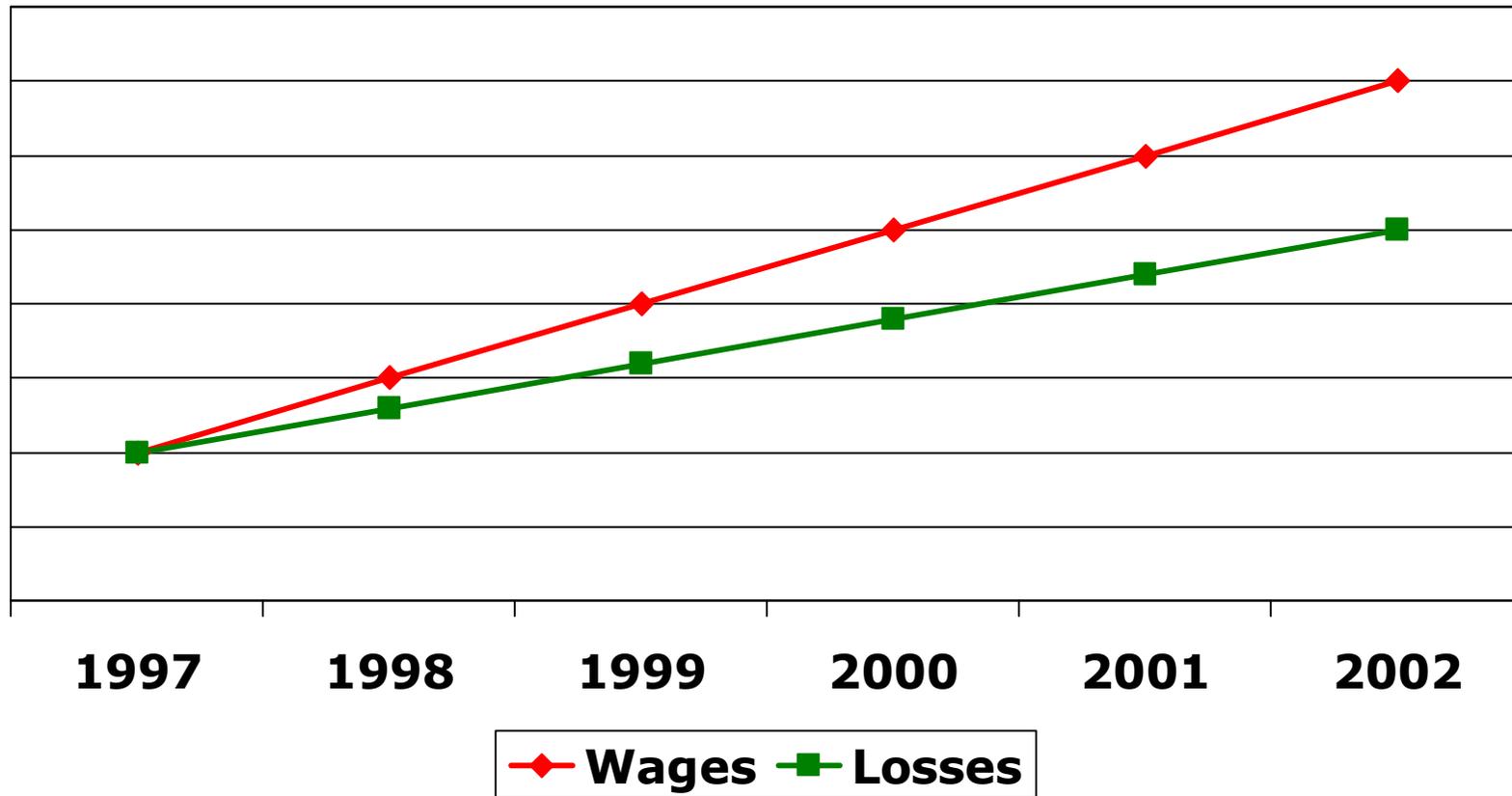
Source: NCCI
Based on data through 12/31/00.
Average indemnity and medical cost per lost-time claim.

Wages Are Expected To Grow



Oregon State Average Weekly Wage & Trend - Source: US BLS

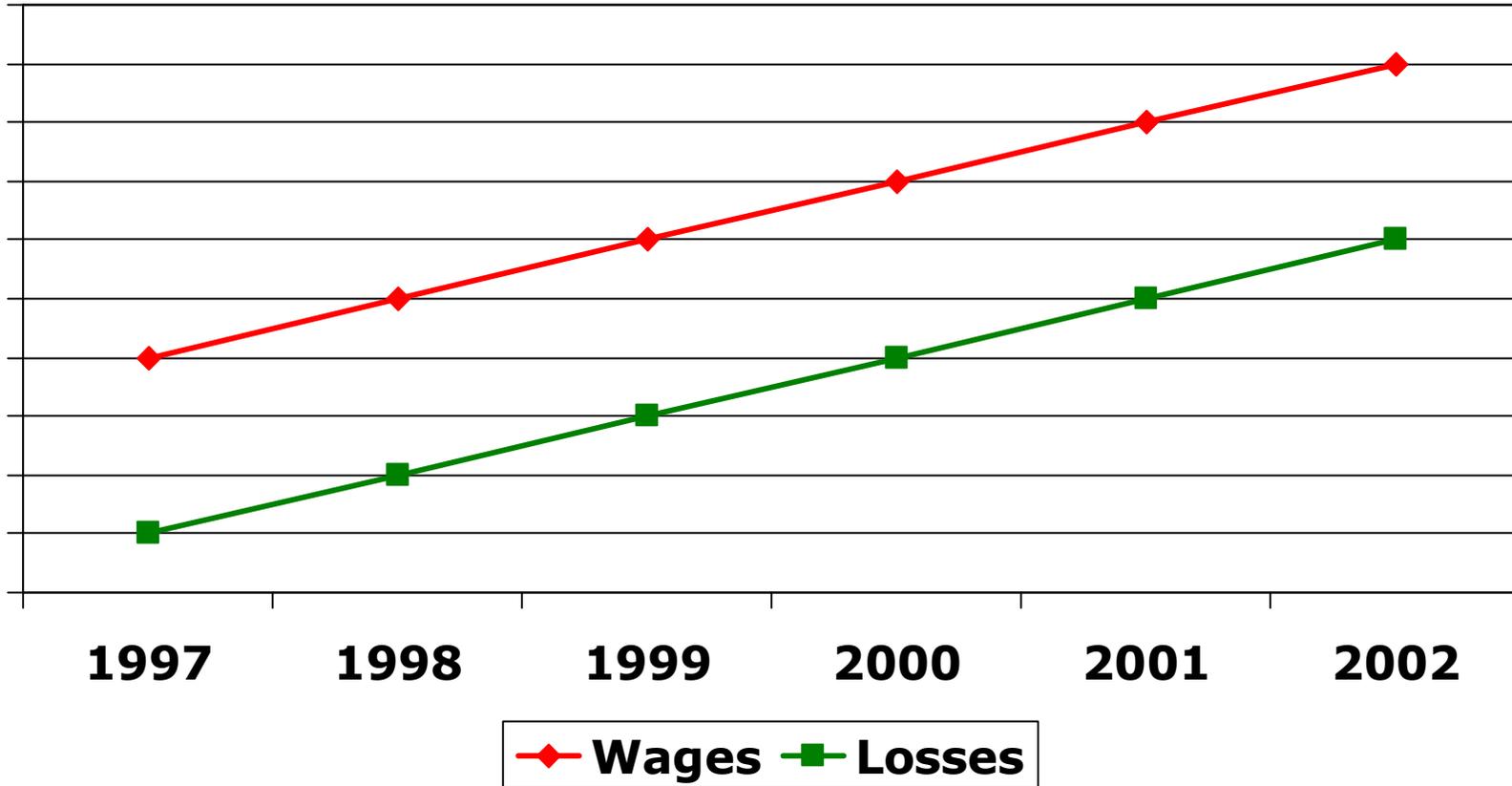
Negative Trend



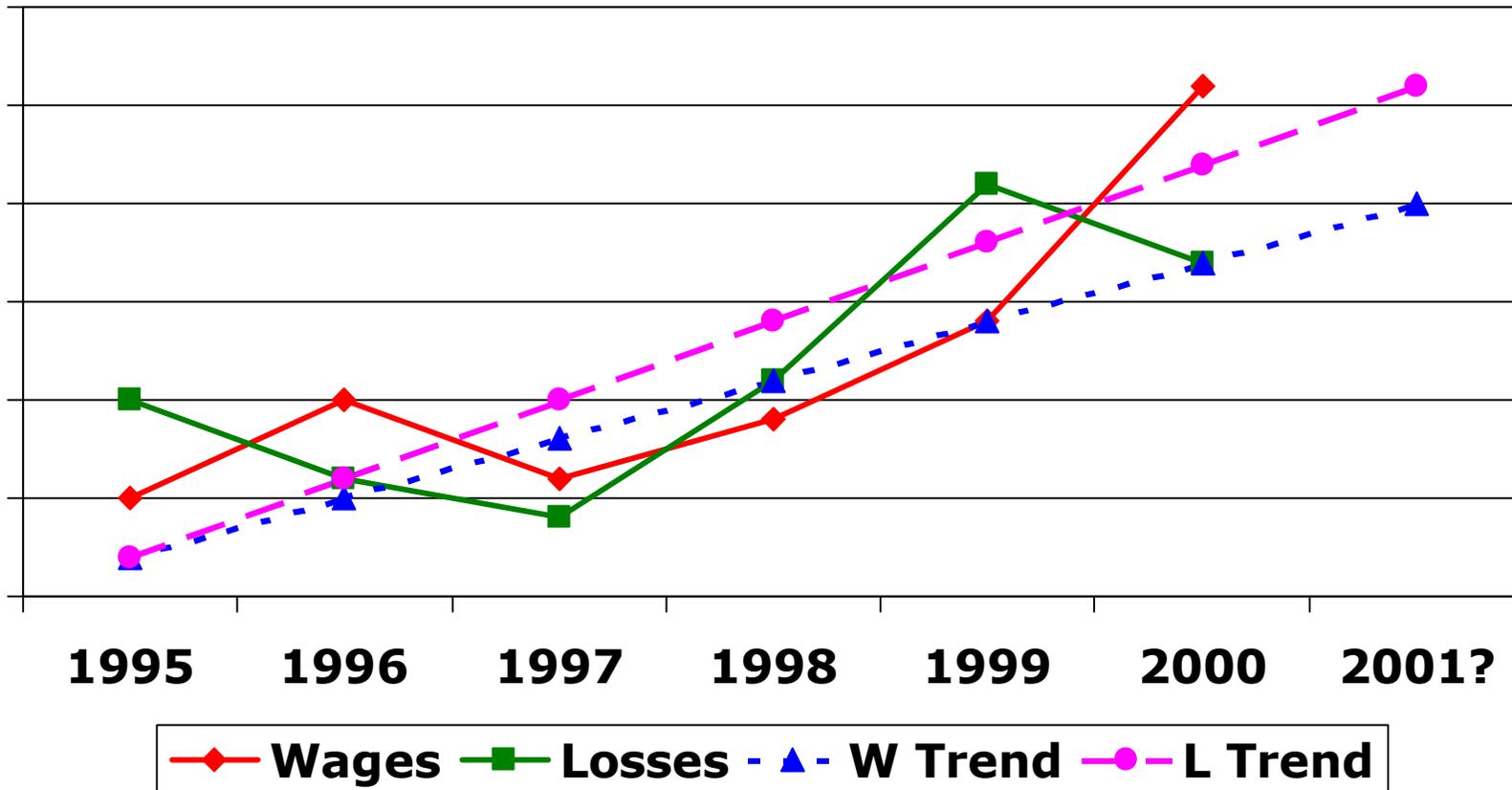
Positive Trend



Flat Trend



Real World



3rd Step

Add In The New Stuff



- **Legislated benefit changes**



- **Court decisions**



- **New regulations**

Impact of changes

- **Benefit Changes** – Immediate impact on premiums by instituting higher or lower wage loss payments
- **Court Decisions** – Alter laws on compensability, coverages or benefits. Impact can be retroactive, immediate or in future
- **Regulations** – Generally more long term in nature (safety requirements) but can have immediate effect (assessments)

If we continue at the same level...

- **How will things balance out?**
- **Will there be enough money to pay claims?**



4th Step - Sanity Check



**Check outside sources
for independent
verification:**

- **DOL**
- **WCD**
- **OSHA**
- **BLS**
- **Carriers**
- **Guy on the street**

Determine Overall Premium Level

Add everything up to determine what the overall premium level needs to do:

- Up?
- Down?
- No change?



5th Step

Spread Out The Changes

Not equitable to apply rate change unilaterally to all employers

- Distribute to 5 Industry groups based on their experience**
- Distribute to individual classifications based on their experience**

Final Premium Impact



- **What does this mean to the average employer?**
- **Are there other factors involved?**
 - Growth
 - Change in exposure
 - Losses
- **Bottom Line:**
“HOW MUCH IS THIS GOING TO COST ME?”

Final Manual Rate

- A provision for each expense item is added by the insurer to the final loss cost to produce a full manual rate
- Carrier rates expressed as a Loss Cost Multiplier

Loss cost X LCM = Final Rate

Full Rate

Profit & Contingencies
Taxes, Licen & Fees
Production & General Expense
Loss Adjustment Expense
Developed and Trended Losses

Policyholder Pricing Programs

Programs "tailor" the final premium to better match the characteristics of each insured

- **Experience rating**
- **Tiered Rating**
- **Premium discounts by size of policy**
- **Retrospective Rating**
- **Etc.**

Dirt Diggers, Inc

General Excavation

Dirt Diggers, Inc Payroll:

6217 \$100,473

8810\$ 25,716

Loss Cost Rates:

6217 = \$23.67

8810 = \$.68

Two Guys Mutual Insurance Company

Loss Cost Multiplier = 1.25

TGMIC Rates:

Class 6217 = \$29.59 / \$100

Class 8810 = \$0.85 / \$100

Dirt Diggers, Inc

6217	\$100,473	x	\$29.59/\$100	=	\$29,729
8810	\$25,716	x	\$.85/\$100	=	\$ 218
	Manual Premium	=			\$29,947
	Experience Mod	x			.95
	Modified Premium	=			\$28449
	MCCPAP				.95
	Standard Premium				\$27,026
	Premium Discount (12%)	x			.88
	Estimated Annual Premium				\$23,728
	Base Premium = \$29,947		Actual Premium = \$23728		
	DIFFERENCE = \$6,219		OR		@ 21%

Fall in a Hole, Inc

General Excavation

Fall in a Hole, Inc Payroll

6217 \$100,473

8810 \$ 25,716

6217 = \$23.67

8810 = \$.68

Somewhat Equitable Insurance Company

Loss Cost Multiplier = 1.50

SEIC Rates:

Class 6217 = \$35.51/\$100

Class 8810 = \$ 1.02/\$100

Fall In A Hole, Inc.

6217	\$100,473	x	\$35.51/\$100	=	\$35,678
8810	\$25,716	x	\$ 1.02./\$100	=	\$ 262
	Manual Premium	=			\$35940
	Experience Mod	x		1.25	
	Modified Premium=				\$44,925
	MCCPAP				.95
	Standard Premium=				\$42,679
	Premium Discount (8%)	x		.92	
	Estimated Annual Premium				\$39265
	Base Premium =	\$35,390	Actual Premium =	\$39,265	
	DIFFERENCE	= \$ 3,875	OR	@ 10%	

Differences

- **Dirt Diggers, Inc**
 - **Safety conscientious**
 - **controlled losses**
 - **better training**

Gives them more carrier choices, options for premium savings via lower ex-mod MCCPAP, etc.

\$23,728

vs

\$15,537

or

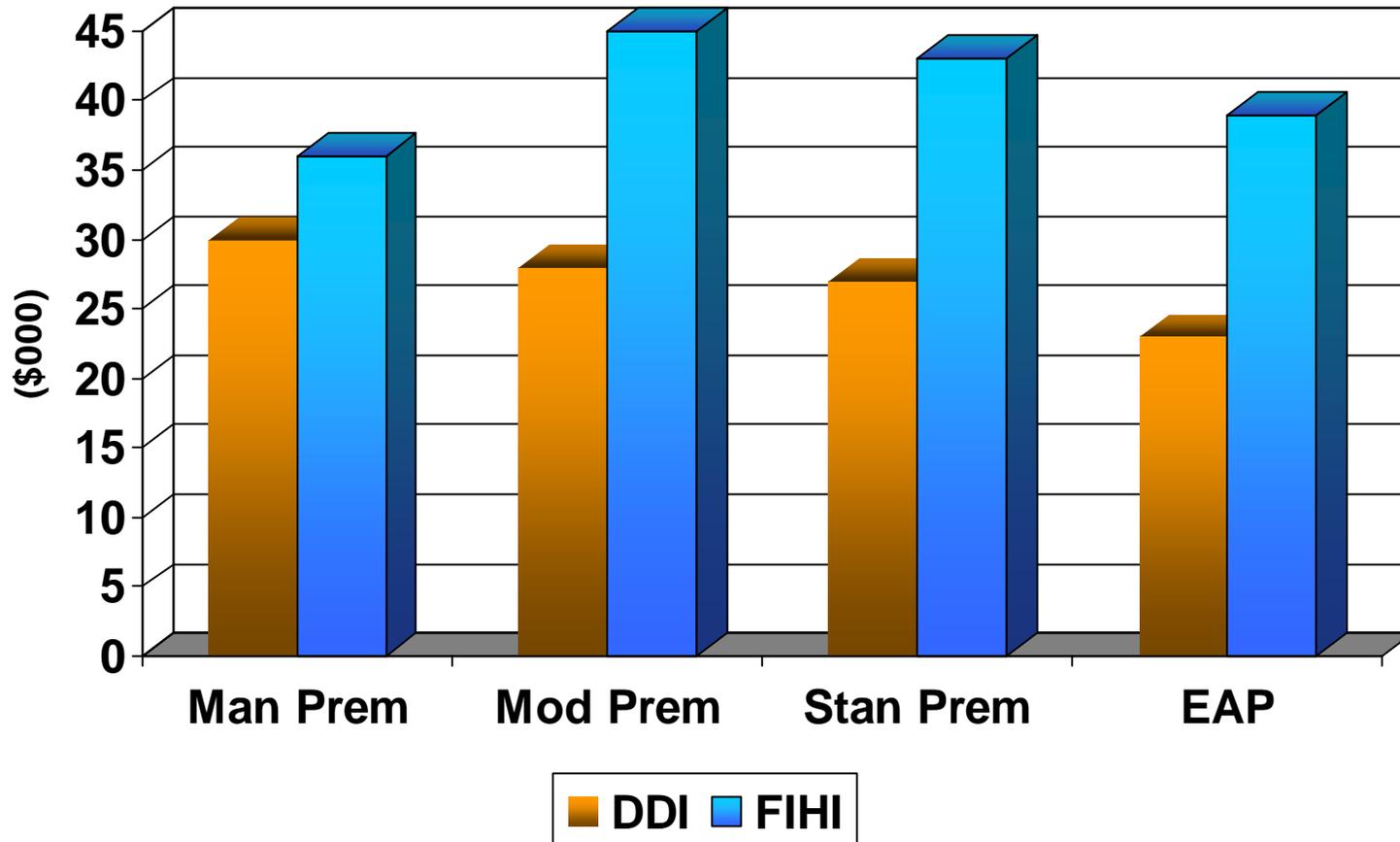
- **Fall in a Hole, Inc**
 - **Multiple losses**
 - **less emphasis on safety**
 - **spotty training**

Results in less options for coverage, higher ex mod, lower premium discount, etc.

\$39,265

165% higher

Premium Differences



**Questions?
Comments?**



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